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Orifice conductance may also be varied by using extended set-screws with orifices machined therethrough.

In the Claims:

Marked-up versions of amended Claims 1, 10, and 18 are provided in Attachment A, submitted herewith.

Please substitute the following for pending Claim 1:

1. (Amended) An apparatus for depositing a uniform coating on a planar surface of a substrate, said apparatus comprising:

a) at least one array of a plurality of plasma sources for generating a plurality of plasmas, wherein each of said plurality of plasma sources includes a cathode, an anode, and an inlet for a non-reactive plasma source gas disposed in a plasma chamber;

b) a deposition chamber for containing said substrate, wherein said deposition chamber is in fluid communication with said plasma chamber, and wherein said plasma chamber is maintained at a first predetermined pressure and said deposition chamber is maintained at a second predetermined pressure, said second predetermined pressure being less than said first predetermined pressure; and

c) at least one common reactant gas injector disposed in said deposition chamber between said anodes of each of said plurality of plasma sources and said substrate for providing a uniform flow rate of at least one reactant gas into each of said plurality of plasmas.

Please substitute the following for pending Claim 10:

10. (Amended) A common reactant gas injector for injecting a uniform flow of at least one reactant gas into a plurality of plasmas generated by an array of a plurality of plasma sources, said common reactor injector comprising:

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a) a reactant gas inlet comprising a tubular-walled structure having an interior space through which said at least one reactant gas is supplied from a reactant gas source, wherein said reactant gas inlet is disposed between said array and a substrate;

b) a first plurality of orifices proximate to a first plasma, each of said first plurality of orifices extending through said tubular-walled structure from said interior space to an outer surface of said reactant gas inlet, wherein said first plurality of orifices is oriented such that said at least one reactant gas passes from said interior space through said first plurality of orifices and is directed into said first plasma at a first flow rate; and

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c) a second plurality of orifices proximate to a second plasma, each of said second plurality of orifices extending through said tubular-walled structure from said interior space to an outer surface of said at least one reactant gas inlet, wherein said second plurality of orifices is oriented such that said at least one reactant gas passes from said interior space through said second plurality of orifices and is directed into said second plasma at a second flow rate, said second flow rate being substantially equal to said first flow rate.

Please substitute the following for pending Claim 18:

18. (Amended) An apparatus for depositing a uniform coating on a surface of a substrate, said apparatus comprising:

a) at least one array of a plurality of plasma sources for generating a plurality of plasmas, wherein at least one of said plurality of plasma sources is an expanding thermal plasma source, wherein each of said plurality of plasma sources includes a cathode, an anode, and an inlet for a non-reactive plasma source gas disposed in a plasma chamber;

b) a deposition chamber for containing said substrate, wherein said deposition chamber is in fluid communication with said plasma chamber, wherein said plasma chamber is maintained at a first predetermined pressure and said deposition

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chamber is maintained at a second predetermined pressure, said second predetermined pressure being less than said first predetermined pressure; and

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c) at least one common reactant gas injector disposed in said deposition chamber between said anodes of each of said plurality of plasma sources and said substrate for injecting a uniform flow of at least one reactant gas into each of said plurality of plasmas, said common reactant gas injector comprising: (i) a reactant gas inlet comprising a tubular-walled structure having an interior space through which said reactant gas is supplied from at least one reactant gas source; (ii) a first plurality of orifices proximate to a first plasma, each of said first plurality of orifices extending through said tubular-walled structure from said interior space to an outer surface of said reactant gas inlet, wherein said first plurality of orifices is oriented such that said reactant gas passes from said interior space through said first plurality of orifices and is directed into said first plasma at a first flow rate; and (iii) a second plurality of orifices proximate to said second plasma, each of said second plurality of orifices extending through said tubular-walled structure from said interior space to an outer surface of said at least one reactant gas inlet, wherein said second plurality of orifices is oriented such that said reactant gas passes from said interior space through said second plurality of orifices and is directed into said second plasma at a second flow rate, said second flow rate being substantially equal to said first flow rate.

REMARKS

Applicant appreciates the consideration shown by the Office, as evidenced by the most recent Office Action, mailed on June 19, 2002. In that Office Action, Claims 1-31 were rejected by the Examiner. Claims 32-44 have been withdrawn from consideration. As such, Claims 1-44 remain in the case with none of the claims being allowed.

The June 19 Office Action has been carefully considered. After such consideration, Claims 1, 10, and 18 have been amended. Applicant respectfully requests reconsideration of the application by the Examiner in light of the above amendments and the following remarks offered in response to the June 19 Office Action.